

**Teaching and Learning the Operational Art of War:
An Appraisal of the School of Advanced Military
Studies**

**A Monograph
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SCHOOL OF ADVANCED MILITARY STUDIES

MONOGRAPH APPROVAL

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Title of Monograph: *Teaching and Learning the Operational Art of War:
An Appraisal of the School of Advanced Military Studies*

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ABSTRACT

TEACHING AND LEARNING THE OPERATIONAL ART OF WAR: AN
ASSESSMENT OF THE SCHOOL OF ADVANCED MILITARY STUDIES by MAJ
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If the US Army is to successfully design campaigns that link tactical battles and engagements to achieving strategic aims, staff officers and commanders must be educated in the theory, history, and techniques of operational art. The purpose of this monograph is to examine whether the current Army system of education, specifically the Advanced Military Studies Program (AMSP), is sufficiently accomplishing this mission.

This topic is significant because the international environment and the Army have undergone important changes since the School of Advanced Military Studies (SAMS) was founded in 1982. The current director of SAMS, Colonel Robin Swan, recognized this changed environment in his Director's Vision Statement in 1998, and initiated multiple changes to the curriculum. In conjunction with these changes, this monograph offers a critical appraisal of the school, its curriculum, and its methods of teaching.

The bottom line is that the current initiatives at AMSP are an evolutionary step in the right direction. SAMS continues to fill a critical niche in the Army. However, as the Army executes its Transformation Strategy, it is important that SAMS and AMSP also transform. The original vision of SAMS must be melded with the new geopolitical environment and with advances in educational theory and techniques. In this way, SAMS will successfully achieve its goal of teaching and learning the operational art of war.

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*If you plan for one year—plant rice;
for ten years, plant trees; for a
Hundred years, educate men.
--Confucius*

Introduction

If the US Army is to successfully design campaigns that link tactical battles and engagements to achieving strategic aims, staff officers and commanders must be educated in the theory, history, and techniques of operational art. The purpose of this monograph is to examine whether the current Army system of education, specifically the Advanced Military Studies Program (AMSP), is sufficiently accomplishing this mission.

The education and training of officers is a controversial subject area. There are conflicting philosophies on the knowledge that professional Army officers should master, and competing demands for the limited time in an officer's career when educational opportunities occur. The basic and advanced courses teach tactics. The Command and General Staff Officer Course introduces operational art, but focuses primarily on tactics at the Division level. The Senior Service College focus is on national security policy-making and military strategy. When is the operational art studied and learned by Army officers?

A partial answer is that the School of Advanced Military Studies (SAMS) was created in 1982 to educate a limited number of officers in the operational art each year. The mission of SAMS is "to educate officers at the graduate level in military art and science to produce leaders with the mental flexibility to solve complex problems in peace, conflict, and war." Following a year of dedicated learning in classrooms, the graduates of SAMS spend one year as a Division or Corps planner. This experience completes their

initial training in operational art. In future assignments they contribute in a variety of command and staff positions, learning the operational art through experience. Is SAMS producing the desired graduates? Thus far, the response from the field has been positive, but there is room for improvement.

This topic is significant because the international environment and the Army have undergone important changes since SAMS was founded. Examples of these changes include the termination of the bipolar international competition between the Soviet Union and the United States in 1992 with the dissolution of the USSR. This change led to a more interventionist strategy, where the US engaged in numerous smaller scale contingencies involving the use of US military forces, including Somalia, Bosnia, Haiti, Rwanda, and Kosovo. While the US military was called on to perform these missions, it was simultaneously dramatically reduced in size between 1989 and 2000. Beyond the military, technology has advanced significantly since the founding of SAMS, spurring debate over a Revolution in Military Affairs (RMA), an Information Revolution, and the "New Economy" based on "knowledge workers".

The current director of SAMS, Colonel Robin Swan, recognized this changed environment in his Director's Vision Statement in 1998, and initiated multiple changes to the curriculum. In conjunction with these changes, this monograph offers a critical appraisal of the school, its curriculum, and its methods of teaching. The intent is to provide a study based on an analytical model that will be useful to those charged with continuing the improvement of SAMS. While inferential recommendations are offered, this monograph is not conclusive, but instead a starting point for further research.

The study first examines the nature of operational art in order to provide a baseline frame of reference. The monograph then discusses the founding of SAMS, and its current mission and purpose. Chapter two introduces education theory and critical thinking skills, and an analytical model is proposed that divides the AMSP into its component parts. Given this context, chapter three applies the analytical model to AMSP, examines the merits of the current program, and makes recommendations on how SAMS could improve in teaching the operational art of war.

Chapter One: Teaching Operational Art and the Creation of SAMS

What is Operational Art?

The operational level of war links the national strategic aims with the application of force at the tactical level. Joint Pub 1-02 defines the operational level of war as:

The level of war at which campaigns and major operations are planned, conducted, and sustained to accomplish strategic objectives within theaters or areas of operations. Activities at this level link tactics and strategy by establishing operational objectives needed to accomplish the strategic objectives, sequencing events to achieve the operational objectives, initiating actions, and applying resources to bring about and sustain these events. These activities imply a broader dimension of time or space than do tactics: they ensure the logistic and administrative support of tactical forces, and provide the means by which tactical successes are exploited to achieve strategic objectives.¹

The reason this level of war is required is that the nature of war expanded in time, space, magnitude of mobilization, and lethality with the occurrence of the Industrial Revolution in the 19th century. When states gained the capability to mobilize millions of men and move them over great distances with rail networks, the complexity of warfare made the theory of a decisive battle at a single point obsolete. A series of battles would be necessary to achieve national strategic aims, and the planning of these “campaigns” requires what is today called “operational art”.

Operational art uses a conceptual framework that captures time, space, and combat power to achieve a given purpose. It is important to recognize, however, that there is more than just combat incorporated in operational art. Because this level of war overlaps the strategic level of war, the political, diplomatic, economic, and informational aspects of a problem must be considered much more in depth than at the tactical level of

war. In reality, these factors may dictate a constrained framework in which the operational commander must operate in order to support the strategic aims of the state. Commanders and staffs at the operational level must be educated and trained in these non-military aspects of complex problem-solving, even though they may not control the instruments of power that are used to influence these non-military factors.

It is important to further examine what is involved in the military aspects of operational art. In planning operations, one must design the three-dimensional theater structure and the joint (and/or combined) command and control structure. The planners must also determine the proper sequence to alert, mobilize, and deploy military resources to the theater. Reception, staging, onward movement, and integration (RSOI) are critical once forces arrive in theater. Finally, lines of operation must be designed that apply overwhelming force at enemy decisive points simultaneously and/or sequentially to lead to the defeat of the enemy center(s) of gravity prior to friendly culmination.

While this is a simplistic overview of operational art, it is sufficient to give the reader a feel for the elusive nature of the topic. Teaching and learning operational art is not simply creating a checklist and learning to follow it. The word “art” signifies that there is a creative process involved that goes beyond understanding the science of military operations. Operational art is difficult to teach and learn, in part because the learner must start practicing it before he or she can know what it is. (See the “Reflective Practitioner” section below). Operational art is a realm filled with gray areas, and no “right” answers. Here is the critical niche that SAMS and AMSP fill: helping future operational staff officers (and commanders) attain the broad and deep background necessary to apply theory in practice to solve complex problems in peace, conflict, and war.

Why SAMS?

The School of Advanced Military Studies is the latest incarnation of the pre-World War II system of allowing selected officers to attend a second year of intermediate level professional military education following the Command and General Staff Officer Course (CGSOC). The two-year program existed from 1904 to 1917, 1919 to 1922, and 1928 to 1936, and many of the great combat leaders of World War II and Korea were two-year Leavenworth men.²

As the US Army rebuilt itself following the Vietnam conflict, several studies (OPMS, RETO, SSI Report)³ identified shortcomings in the intermediate-level officer education and training program. Senior officers perceived a gap between the levels of officer competence they observed and the level they would be comfortable going to war with.⁴ Colonel (now BG (retired)) Huba Wass de Czege spearheaded the creation of SAMS to redress this perceived gap, leading a pilot program in 1982 that was formally approved in 1984.

COL Wass de Czege captured the purpose of the school as follows:

...to provide a broad, deep military education in the science and art of war at the tactical and operational levels that goes beyond the CGSO course in both theoretical depth and practical application to officers who have demonstrated a high degree of potential for serving as battalion and brigade commanders, as principal staff officers of divisions and corps, and as branch chiefs and deputy division chiefs on major command and Department of the Army level staffs or their equivalents. The course focus is on operational planning skills and on developing sound military judgment across the entire spectrum of present and future US Army missions in the preparation for and conduct of war.⁵

In addition, Wass de Czege believed a complementary purpose of the course was to “seed the Army with a number of officers annually who [would] produce a leavening

influence on the Army by their competence and impact on other officers.” In the long term, this would raise the overall competence of the officer corps across the Army.⁶

The course methodology was built around a “seminar” system that placed the onus of responsibility for learning on the student officer, not the “instructor”. Sometimes referred to as the “Adult Learning Model”, this methodology requires extensive individual preparation outside of class, coupled with rigorous dialogue and discussion in the seminar. The seminar leader facilitates the dialogue, guiding the group toward achieving the learning objectives.⁷

Practical exercises, field trips, and briefings were also part of the education and training process from the beginning of AMSP. In this way, the curriculum could range from the extremely theoretical to the very practical, striking a balance in order to achieve the purposes discussed above.

“Jedi Knights”

The AMSP graduates of the mid-eighties began to build a solid reputation for the course and for SAMS in general. The nickname “Jedi Knights” was associated with AMSP graduates, reflecting the perception that they possessed exceptional skills like the characters from the *Star Wars* series of films. In fact, in 1990, a special cell of AMSP graduates was formed to assist in the planning effort for Desert Shield/Desert Storm.⁸ Requested by General Schwartzkopf, the planners put together a top-secret plan that formed the basis for the VII Corps attack into the flank of the Iraqi Republican Guard. Through the nineties, SAMS began to fill a niche in the US Army as solvers of complex operational problems.

Nonetheless, in contrast with the great reputation of the majority of graduates was the image created by a few alumni of being arrogant, self-serving elitists.⁹ The high demand from the field also created high expectations for graduates that became unrealistic. Finally, with the implementation of the Goldwater-Nichols Defense Reorganization Act of 1986 and the military drawdown of the 1990s, applications for AMSP began to fall as an additional year of school became less attractive to field-grade officers.¹⁰ By 1998, the school had the potential to become a victim of its own success if it failed to adapt to the changes in the geopolitical context. While the quality of AMSP graduates remained high, there was a danger that the school could become stagnant.¹¹

AMSP in 2000

As this monograph was written, several initiatives were underway to keep the SAMS relevant to the force and responsive to the global context. These will be briefly discussed below in the section "Director's Vision Statement". First, however, it is appropriate to discuss the organization, mission, and purpose of the school today.

Organization

The School of Advanced Military Studies is, like most military organizations, situated within a hierarchy. The Department of the Army assigns responsibility for institutional training and education to the Training and Doctrine Command (TRADOC). Under TRADOC, the Combined Arms Command (CAC) is located at Fort Leavenworth. CAC is commanded by a lieutenant general who serves as the Training and Doctrine Command (TRADOC) Deputy Commanding General for Combined Arms, the Commander of the Combined Arms Center and Fort Leavenworth, and the Commandant of the Command and General Staff College. He also serves as the Director, Battle

Command Battle Laboratory. Within the CAC, the Command and General Staff College (CGSC) is the proponent for the intermediate level of Professional Military Education for the Army. SAMS is one of several schools within CGSC.

The School of Advanced Military Studies includes two component programs. The Advanced Operational Art Studies Fellowship (AOASF) is an Army War College equivalent course, admitting lieutenant colonels and colonels. (This monograph will only peripherally address AOASF). The second component of SAMS is the Advanced Military Studies Program (AMSP), which is the focus of the monograph.

For the 1999-2000 academic year, the AMSP was organized with four seminars.¹² Each seminar contained twelve or thirteen majors led by an active duty Army lieutenant colonel or colonel as the seminar leader. Each seminar leader was a graduate of the AOASF and a former battalion commander.

The seminar leaders are the "center of gravity" of the AMSP program.¹³ They facilitate the daily learning of the majors, act as role models, and tie the theoretical subject matter to relevant topics from their military experience. The quality of the AMSP program absolutely hinges on the quality of the seminar leaders. This topic will be addressed in more depth later in the monograph.

SAMS also has a permanent faculty consisting of the Professor of Military Theory, Professor of History, Professor of Social Sciences, and the Exercise Director. In addition, there is a Director of Academic Affairs who also serves as the Military Studies Program Administrator. The permanent faculty are responsible for teaching the AOASF fellows while at the same time designing, assessing, and improving the AMSP curriculum that is facilitated by the seminar leaders. Each of the Professors, and the Director of

Academic Affairs has a doctoral degree and extensive subject matter expertise. The Exercise Director, currently a doctoral candidate, is an active duty Army officer with broad planning experience. He is also an alumnus of the AMSP program.

The organization of the faculty and the seminars plays a critical role in the curriculum design and teaching methods employed to achieve the mission and purposes of AMSP. The relationships and organizational dynamics are explored in depth below.

Mission

The School of Advanced Military Studies is unique in the US Army. Its mission (in 2000) is to “educate officers at the graduate level in military art and science in order to produce leaders with the flexibility to solve complex problems in peace, conflict, and war.”¹⁴ This mission statement hints at SAMS’ unique nature, in that the school teaches “how to think” and not “what to think”. In the complex problems that graduates are asked to solve, there is seldom a right answer. Therefore, the education is designed to provide the student with mental flexibility, critical thinking skills, and a breadth and depth of knowledge of military art and science. Given these tools, a graduate will be prepared to react to new complexities as they arise.

Purpose

The Advanced Military Studies Program has three main purposes. They are:

- Provide the services with specially educated officers for command and general staff positions;
- Develop the skills needed to be a successful planner at the Corps and Division level; and
- Develop leaders with an advanced understanding of the operational level of war.

Understanding the implications of these purposes is critical to understanding the dual nature of AMSP. The first and third objectives are concerned with education and

conceptual understanding. This correlates to the typical graduate level education, where the process is intended to transform the student's thinking, giving a broader perspective in addition to subject matter expertise. These first two objectives are most in line with the original founding vision of AMSP.

In contrast, the second objective is concerned with training, which is different in nature from education. Oriented on inculcating a specific skill set, the second objective recognizes that in order to be future agents of positive change in the Army, AMSP graduates must first be successful in their Phase III internship as a division or corps level planner.¹⁵ Only by making a positive contribution in their initial post-AMSP assignment can graduates go on to serve at higher level command and staff positions. This combination of training and education purposes is what makes curriculum design and teaching methods a challenge.

Director's Vision Statement

As mentioned above, by the late nineties, SAMS was in danger of becoming a victim of its own success.¹⁶ In June 1998, COL Robin Swan assumed the position of SAMS director. He published a Vision Statement that explained why SAMS had to change, and how it should begin evolving in order to stay relevant to the Army. (See Appendix A for a full copy of the Director's Vision Statement). COL Swan proposed a review of the curriculum, more integration of technology, and a closer relationship with the CGSC. Like any academic institution, resistance to change existed. Nonetheless, after an exhaustive review of the program, several changes were initiated.

First, the separate and sequential Theory and History courses were "integrated" (e.g., instead of a separate theory course followed by the history course, lessons from each

of the courses were interspersed in the academic calendar). This was intended to allow the students to, for example, examine a Napoleonic campaign in depth prior to studying the theories of Clausewitz and Jomini. This initiative had the potential to allow for a much richer learning experience, providing historical context for the classic theoreticians. However, “interspersing” does not equal integration, and there is some work remaining in implementation.

Second, the permanent faculty and seminar leaders created electives in order to allow current and relevant topics to be addressed in the curriculum. A four-week block in the second term was created, at the expense of dropping or consolidating other classes. This initiative was well received by the permanent faculty, as it allowed them to teach and share a topic they found interesting.¹⁷ The electives were also well received by the students.

Third, the robustness of the exercise program was increased. Additional exercise days were added, commercial “off-the-shelf” simulations were integrated into several exercises, and the students were intermixed between seminars for most exercise events in order to remove students from their “comfort zones”.

Summary

The foregoing observations hint that SAMS and AMSP are incrementally evolving in an attempt to stay relevant to the US Army and the changing geopolitical context since the end of the Cold War. The organization is sound, and the current initiatives underway are likely to reinforce the past success of the school. However, there is more to be done, as the school will always be “a work in progress”.¹⁸

The next chapter explores adult learning theory in order to inform the reader on the special nature of educating adults. The chapter also extensively describes an analytical model. This model is then employed in the third chapter to critically assess the AMSP program and determine recommendations for improvement.

Chapter Two: Educational Theory

Teaching and learning operational art at AMSP is difficult in two respects: first, the subject matter is conceptually complex to transfer from theory to practice, and second, the majors attending AMSP are an atypical group of adult learners. The purpose of this chapter of the monograph is to explore educational theory as it relates to AMSP.

Learning, Education, and Training

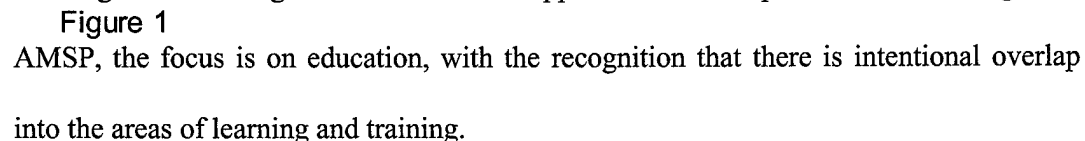
Education theory draws a distinction between learning, education, and training. Often portrayed as a spectrum between the general and specific, and the formal and informal, these categories have significant overlap. Tight states,

...[W]e might distinguish education from training on two grounds. First that the former is a broader and deeper learning activity. Second, that the latter is more likely to be involved with the development of narrower skills, while the former has to do with more general levels of understanding. Once again, though, the differences are not precise and we are left with shady areas and overlaps....¹⁹

Education is often characterized as the focus of scholars and academia, while training is often correlated with practical and vocational pursuits. Education goes beyond skill development, and attempts to create understanding. Barrow and Milburn clarify this distinction well:

Use of the word 'understanding', as opposed to 'knowledge', implies that what is at issue is something more than mere information and the ability to relay or act in accordance with formulae, prescriptions and instruction (the latter is characteristic of training rather than education). An ability to recite dates, answer general knowledge quizzes, or reproduce even quite complex pieces of reasoning, is not necessary to being educated. Rather, one requires of an educated person that he [sic] should have internalized information, explanation, and reasoning, and made sense of it. He should understand the principles behind the specifics that he encounters; he sets particulars in a wider frame of theoretical understanding.²⁰

Learning is, like breathing, a fundamental human process.²¹ It goes on all the time, whether the individual is consciously aware of it or not. The study of learning is important, as the more that is understood about *how* adults learn, the more effectively educators can facilitate that learning. Unfortunately, there is a lack of consensus in the field, and there is a full range of behavioral, cognitive, and humanistic theories on learning. It is not possible in this space to review them all, but merely useful to recognize that some theorists view learning as an outcome, and others view it as a process.²²



Critical thinking is an appropriate topic for discussion, given the mission of SAMS. The reader will recall the saying above that SAMS teaches its students “how to

think, not what to think.” This is also reflected in the school’s motto, “Mens est clavis victoriae,” or “The mind is the key to victory.”

Ennis defines critical thinking as “reasonable reflective thinking that is focused on deciding what to believe or do.”²⁴ He advances a model for critical thinking ability that has four basic areas: clarity, basis, inference, and interaction.²⁵ Clarity, meaning the desire to be clear about what is going on, consists of a wide range of abilities, including focusing on a question, analyzing arguments, and asking appropriate clarifying questions. Basis means individuals want to have a reasonable basis for judgment, and require the ability to judge the credibility of a source, and use powers of observation. Inference involves inductive and deductive inference, as well as making value judgments. Each of these elements is oriented on the “reasonable reflective thinking” portion of Ennis’ definition above. Deciding on an action is the next step, using problem-solving approaches. Finally, Ennis states that interacting with others is crucial to critical thinking. As just explained, the elements of the model are separate components, but Ennis holds that the abilities discussed are interdependent and must be employed in combination.²⁶ This model is extremely relevant, as the seminar sessions and practical exercises in AMSP require these abilities.

Nickerson is also helpful with his list of characteristics of “good thinking”. (Because of the length of the list, only a few characteristics are included here. However, the full list is reproduced in Appendix B). Some of these characteristics include:

- Uses evidence skillfully and impartially;
- Organizes thoughts and articulates them concisely and coherently;
- Attempts to anticipate the probable consequences of alternative actions before choosing among them;

- Can learn independently and, at least equally importantly, has an abiding interest in doing so;
- Applies problem-solving techniques appropriately in domains other than those in which they were learned.²⁷

These examples will be of use later in the monograph during the examination of the characteristics of incoming students to AMSP and the desired outcome at graduation. Critical thinking is essential to the ability to be a flexible problem-solver in peace, conflict, and war. The next section discusses the model authored by Donald Schön, which relates critical thinking to the professions.

Reflective Practitioner

Donald Schön authored several books that deal with how professionals such as doctors, architects, and lawyers transfer the theory they learn into practice. His book, *Educating the Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions*, was extremely illuminating as it relates to teaching and learning the operational art.

Schön argues that much of professional education prepares practitioners to solve the clean, rational, scientific-technical type problems: the type rarely observed in reality. He proposes that practitioners must use “reflection-in-action”, whereby they can learn by doing, and thus develop the skills necessary to solve the messy problems that life presents.²⁸ Reflection-in-action means that while acting, the actor reflects on what he or she is doing, and makes in-stride corrections to fix problems that arise.

For instance, while the overall steps are similar, every procedure for a surgeon will be different. The surgeon learns to reflect on feedback from his environment (surprises) and adjust his course of action to suit the dynamic situation. This skill and

knowledge for “reflection-in-action” is only acquired by actually performing surgery, or through practicum. This can present a frightening situation (for both the surgeon and the patient) the first few times.

This is similar to operational art. The paradox is that one must start doing it before one knows exactly what it looks like, and only then starts learning through the practice of solving messy problems. This can be frustrating in the beginning stages, and can make the knowledge that the student is trying to gain appear shrouded in mystery. Here is where “teaching” is not the appropriate technique; the facilitator can merely coach and guide the student to self-discovery.²⁹ The exercise program in AMSP closely replicates the situations that Schön describes, and students would benefit by being familiar with his work.

Assessment for excellence

Analytical model

A useful technique for assessing the excellence of a program of education is to divide the process into subcomponents for analysis. The analyst then assesses each subcomponent in detail prior to performing a summative analysis of the program as a whole. A useful model for executing this technique was proposed by Astin in his book *Assessment for Excellence*.

In *Assessment for Excellence*, Astin describes a simple model he calls I-E-O. These letters stand for Input-Environment-Outcomes. The guiding theory is that students, as they start an educational program, bring a baseline level of skills, background, attitudes, and intellect. This is the Input. When measuring the Outcomes, or the graduate, an assessment must take into account the input, so that the relative change can

be measured and the correlation with the Environment, (the educational program), can be inferred.³⁰ Many assessment programs focus only on the relationship between the educational environment variables and the outcome, but Astin posits that this measure is incomplete.³¹ The assessment must account for those variables that the student carries through the educational environment that are not transformed by that environment. A visual representation of this model is at Figure 2.³²

This monograph adopts Astin's model, and adapts it to reflect the independent and dependent variables associated with the School of Advanced Military Studies. The following is a description of the variables that will be discussed (printed in **bold letters**) and their interrelationship. Formulas are used for brevity to describe interrelationships by stating which variables are a "function" (*f*) of others.

The first assumption is that Astin is correct, and that **outcomes** are a function of **inputs** and **environment**, or **Outcomes=f(Inputs, Environment)**. To be useful, one must further define the latter variables. **Inputs**, or the incoming students, have an infinite number of characteristics that make them unique individuals with varying talents and levels of intellectual development. For the purposes of this monograph, it is necessary to simplify this complex variable. This monograph assumes that **Inputs** are a function of the student officer's military branch, their military experience, their educational background, their intelligence, their motivation, and finally their OPMS XXI timeline. This can also be represented in a formula as **Inputs=f(branch, military experience, education, intelligence, motivation, OPMS XXI timeline)**.

Environment is relatively more complex than **Inputs**. For this monograph, the model contains those variables of the educational environment at SAMS that are salient

to this analysis, while admitting that the model is probably incomplete. Given the brief nature of this study, the number of variables that can be examined is limited. Also, it will not be possible to examine in any depth the infinite and dynamic interactions between the variables. Despite these caveats, the monograph will focus most on this area. In formula form, **Environment=f(purpose, facilities, faculty, peers, curriculum, teaching methods, resources, rigor)**. To further define the model, **curriculum** is broken into components as **Curriculum=f(needs assessment, context analysis, learning objectives, organization of learning activities, evaluation)**.³³ Continuing to define sub-variables, **needs assessment=f(felt needs, prescribed needs)**; **context analysis=f(societal trends and issues, resources, priorities, mission and purpose, constraints)**; **learning objectives=f(mission and purpose, resources, feasibility given learners, needs of field)**.³⁴ Each of these formulae will be discussed in turn, with the ultimate purpose being to determine which variables are most easily affected or modified, given limited resources, in order to enhance the quality of AMSP graduates.

Outcomes

The expectations for the performance of graduates of AMSP are extensive, and have been enumerated well in the Director's Vision Statement. Therefore, instead of repeating the expectations here, the reader is referred to Appendix A where they are reproduced in full.

Inputs

The officer that enters the AMSP is a volunteer who has graduated from the CGSC resident or non-resident course, been recommended by his or her chain of command, taken an examination, and completed an interview with the director of SAMS.

Following the application process, the CGSC department directors vote on the applicants' files. An order of merit list is constructed, and the class of approximately 54 students (per year) is filled.

While the author has not been party to the admissions process, (other than as an applicant), the variables considered by the selection board are likely to include many of those in the **Input** function (**branch, military experience, education, intelligence, motivation, OPMS XXI timeline**). Nonetheless, a caveat is necessary. The import of the function is not to determine how the selection board makes their decisions. The purpose of the **Input** function in this monograph is to provide a measurable baseline for the AMSP applicant against which to compare the AMSP graduate to determine educational development attributable to the AMSP environment. The hypothesis is that if the quality of the **Input** is raised, then the quality of the **Outcomes** will also necessarily be raised. This is because in the model in Figure 2 there is a direct relationship between **Input** and **Outcomes**, in addition to the relationships between **Input** and **Environment** and **Environment** and **Outcomes**.

The sub-variable **branch** in the function represents the officer's military occupational specialty. There are fourteen Army branches considered for selection to AMSP: Infantry, armor, field artillery, special forces, air defense, aviation, engineers, military intelligence, signal, military police, chemical, ordnance, quartermaster, and transportation. (There are ten additional special branches, including such branches as finance, adjutant general, Judge Advocate General's (JAG) corps, nurse corps, medical corps, and medical service corps that are not considered for selection to AMSP). A

limited number of officers from the Air Force, Navy, Marine Corps, and Army National Guard may also attend. Finally, several international officers may also attend the course.

Each branch brings specialized expertise, and the class is selected with a mix of branches to insure that there is tactical “cross-fertilization” in each seminar classroom. The mix of branches in each class is also influenced by the needs of the field for AMSP graduates in specific branches, and the number of officers that each branch chief at PERSCOM is willing to approve.

Closely related to, but not the same as **branch**, is **military experience**. This variable consists of the assignment history of the officer. The majority of students will have between twelve and fifteen years of commissioned service at the time they begin AMSP. Some will have combat experience, some will have joint experience, and some will have served in one or more of the multiple stability and support operations that the US has been involved in recently. Experience shapes the ability of the student to place the complex operational problems in the AMSP curriculum in a frame of reference. Experience also is directly related to the sub-variable **peers** in **environment**, as experiences shared in the classroom dialogues will enrich all participants.

Education is at first glance an easily measured variable. However, on examination, there are deeper facets to this variable beyond the list of universities attended and degrees earned. Education is a lifelong process that occurs both within and outside of educational institutions. While studies confirm that more formal education is better, it is more difficult to measure the benefits of self-study and reflection.³⁵

The measurement of **intelligence** is highly controversial. While there are many I.Q. measuring tests, there is debate over their usefulness. Yet, this quality, the “faculty

of thought and reason,” is a necessary input in the education process to determine the capability of the student to develop and learn.

Motivation is a variable that describes the student’s drive to succeed at a given task. While motivation is subject to fluctuation over time, a highly motivated student correlates to a higher quality input. This is because motivation helps students to overcome obstacles, and can be contagious in an educational group. This variable is subjectively assessed in the interview process and in the application essay.

OPMS XXI timeline represents the officer’s available time under the Officer Personnel Management System XXI. Field grade officers have requirements (specific to their branch or career field) that must be met prior to consideration for promotion to the next rank. For majors, the gate requirement is called branch qualification. In many branches, a major must serve twelve to twenty-four months in a branch qualifying position (such as Battalion Operations Officer (S-3) or Executive Officer (XO)) to be considered for promotion to lieutenant colonel. When the requirement to serve for one year as a Division or Corps planner following AMSP is factored in, the variable **OPMS XXI timeline** is a significant consideration for potential applicants to AMSP. To explain, an officer is a major for approximately five years before the primary zone consideration for lieutenant colonel. In that five year period, one year is spent attending the Command and General Staff Officer Course, and (optimally) two years are spent in branch-qualifying jobs. The remaining two years allow for a year at AMSP and a year as a planner. However, if the officer falls off this optimal timeline, then attending AMSP can potentially jeopardize the officer’s ability to get branch qualified prior to the lieutenant

colonel's promotion board. This variable will be discussed further when the analytical model is applied later in the monograph.

Environment

The **Environment** variable addresses the heart of this monograph: teaching and learning operational art at the School of Advanced Military Studies. What is taught, why it is taught, how it is taught, and by whom are the important aspects of the school that the formulas attempt to model.

The **Purpose** variable shapes the other variables in the educational environment. If the **Purpose** were the roof of a building, then all other major variables should in some way support that roof.

Facilities vary among educational environments, and affect the physical and psychological aspects of learning. Beyond the obvious manifestations of classrooms, desks, and chairs, facilities include the technology used to assist learning in the institution.

Faculty includes all of those individuals, permanent and rotating, that design, deliver, and evaluate the instruction given to students. The faculty provides educational expertise, subject-matter expertise, and institutional memory to the academic program, and is arguably the most critical variable in the academic environment.

Peers consist of the fellow students that assist (or detract from) learning in the seminar method of education. Because the learning is structured around the dialogue that results from intensive preparation, this variable has great import. In addition to variability in individual personalities and motivation, the peers form the seminar that will

have its own group dynamics. Thus, the effect on learning from the characteristics of one's peers cannot be ignored.

Curriculum, or the subjects that are included in the program of instruction, is a dynamic variable that requires its own formula for analysis. The monograph will return to curriculum following the discussion of the remaining variables in **Environment**.

Teaching methods are the techniques used by faculty to inspire learning by the students. Some examples are lectures, seminars, group projects, and case studies. Teaching methods are related to the subject material being taught, the personal teaching philosophy of the instructor, and to the individual learning styles of the students.

Resources are the tools available to assist in the development of the students. Examples are time, number of faculty, budget, institutional prestige, and alumni. Evident from these examples is that resources encompass much more than fiscal issues. In fact, time may be the most limited resource in an academic environment.

Rigor is a quality that is difficult to quantify, but certainly affects the **Environment**, and hence the **outcomes** of an academic institution. Rigor is the discipline of defining standards, and then insuring that the students meet the standards in order to graduate. While grades are used in some institutions as a measure of rigor, this is not the only system available, nor is it always the best.

It is necessary at this point to insert a brief summary for orientation. The base formula was **Outcomes=f(Inputs, Environment)**. The monograph defined **Inputs** and **Environment** as functions of several other variables, and provided the definitions. One of these, **Curriculum**, requires further explanation through defining its sub-variables. Above, the monograph posited that **Curriculum=f(needs assessment, context analysis,**

learning objectives, organization of learning activities, evaluation); **needs assessment**= f (felt needs, prescribed needs); **context analysis**= f (societal trends and issues, resources, priorities, mission and purpose, constraints); **learning objectives**= f (mission and purpose, resources, feasibility given learners, needs of field). Let us begin with **needs assessment**.

The purpose of a **needs assessment** is to “identify the gaps between the learners’ current and desired proficiencies as perceived by the learner and others; that is, it should help define ‘what is’ and ‘what should be’.”³⁶ Galbraith uses the terms “**felt needs**” and “**prescribed needs**” to differentiate between the needs that the learner identifies and those that the educational institution identifies. It is inappropriate, according to Galbraith, to plan an educational program based on solely one or the other, and the rational path is a combination of felt needs and prescribed needs.³⁷ A needs assessment can be formal or informal, ranging from surveys and interviews to diagnostic tests.

Context analysis is concerned with the influences on both the setting in which students learn as well as the setting where the students will apply what they learn. Understanding contextual influences can help an educator plan and implement a program that is more likely to be successful within the constraints of the educational institution, and provide a learning experience that is more meaningful to the participant.³⁸ The variables of context analysis are fairly self-explanatory. **Societal trends and issues** shape the personal and sociopolitical aspects of the student’s life. The **resources, priorities, mission and purpose**, and **constraints** of the educational institution also set the context for curriculum development, and understanding them is essential so that planning decisions support the context of the organization.

Again turning to Galbraith, a “learning objective is the intended or desired outcome and proficiency level that the learner should obtain as a result of participating in the educational experience.”³⁹ **Learning objectives** draw heavily upon the needs assessment and context analysis, but also rely on subject matter experts, resource managers, and program administrators. The latter three groups insure that the learning objectives support the **mission and purpose** of the institution, the **needs of the field**, and are **feasible given the learners** and the available **resources**.

Curriculum is also a function of **organization of learning activities**. Once needs are assessed, the context analyzed, and the learning objectives identified, the intended outcomes for the educational program are the result. The next step is to select and organize learning activities to support the desired outcomes. This step requires skill to address the teaching and learning methods to be used, keeping in mind that individuals have different learning styles. The sequence is also critical, usually building from the simple to the more complex.

The final component of **Curriculum** is **evaluation**. This variable provides feedback so that educators know if the program is achieving its learning objectives and desired outcomes. Evaluation is critical for program improvement, but is often the component given the least attention.⁴⁰ (This monograph is an effort toward this variable).

Summary

This chapter has briefly examined a few general concepts in adult learning theory. It has discussed the nature of critical thinking, and introduced Schön’s “Reflective Practitioner”. The chapter then proposed an analytical model and defined the multiple variables involved in understanding and assessing an educational program. The next

chapter of the monograph applies the analytical model to AMSP, and provides recommendations for improvement.

Chapter Three: AMSP

Application of analytical model

While the pace of the last section with its multitude of definitions may have been slow, it was a necessary step so that the application of the model could proceed smoothly. Here the monograph brings together the elements of the previous sections to create an assessment of the Advanced Military Studies Program.

The **Input** function is a logical place to begin the discussion, starting with an examination of the recruiting and application process. The AMSP program recruits applicants from each of the intermediate level staff colleges, with emphasis on CGSC. The program is voluntary, so the variable **motivation** is involved in the recruiting process. Thus, to influence this variable, the SAMS faculty must examine what motivates students to volunteer for the program. Each applicant will have different reasons for desiring to attend AMSP, and the admissions process should attempt to determine whether the applicant is motivated to attend AMSP consistent with the mission and purpose of SAMS. Not all motives will be pure, as some applicants may apply merely to have an additional year at Fort Leavenworth. This type of volunteer should be discouraged.

If the student decides to submit an application, they must take the Nelson-Denney test (a measure of reading speed and comprehension), an entrance examination (a measure of military knowledge, tactical reasoning, and written communication skills), and undergo an interview. The application also includes a worksheet completed by the officer's rater, an officer record brief (ORB) that gives limited information on an officer's experience, and several short essay questions.

Given this combination of objective and subjective data, the admissions board must create an order of merit list that will eventually result in a class of approximately fifty-four highly qualified majors. This process differs from other college admissions processes because of the unique constraints of the military personnel system. It is costly to send an officer to an "optional school", because while an officer is in school, he or she is not filling a vacancy in the operational force. Also, given the "up or out" OPMS system, there are definite professional gates that must be met within a certain time period, or the opportunity to serve until retirement is jeopardized. Each officer's branch chief at PERSCOM must approve an officer's selection to AMSP. This step is intended to insure that each officers' career timeline will still work, given the required year of service as a division or corps planner following graduation.

How does the admissions process address the variables of our **Input** function? **Branch** and **military experience** have already been mentioned in this section and in chapter two. Seminars are constructed with an intentional mix of branches and military experience. This effort pays off by enhancing the "combined arms" learning in each seminar. Dialogue is informed by the subject matter expertise that each officer has in his or her particular branch or service. The variable **OPMS XXI timeline** affects which officers are able to attend AMSP, based on individual requirements for branch qualification. This variable could be influenced by attempting to recruit more branch-qualified officers into the program. This is problematic, however, given the pressures on branch-qualified majors to seek a "joint" qualifying assignment because of the Goldwater-Nichols Defense Reorganization Act of 1986.

Education, intelligence, and motivation require further analysis. These three factors are critical in assessing the quality and capability of the applicant, and offer the admissions board the most leverage for improving the **Input** quality. The ORB identifies academic institutions attended and degrees received. Prior graduate level education is a fair indicator that the officer can manage the academic workload of AMSP. However, officers that already have a graduate degree may be less inclined to volunteer, since the Master of Military Arts and Sciences may be less of an incentive. The recommendation here is to recruit heavily among officers with prior graduate work, but do not discourage officers without this educational advantage from applying. The remaining factors (intelligence and motivation) may be evident from the interview, application examination, and essays, but more objective data is desirable. Thus, this monograph recommends that AMSP consider using an additional assessment tool to insure the quality of accepted applicants is maximized. The Graduate Record Exam (GRE) is one example of a standardized test that would provide an objective measure of intellectual ability. This should only be used in conjunction with the screening tools already in place, and weighed as just one piece of the application file. This initiative could generate higher quality graduates prior to any changes being made in the **Environment** variable through more rigorous screening of applicants.

Moving to the **Environment**, the **purpose** of AMSP has remained nearly constant since the school's inception. It is unlikely that the purpose will change in the near future, given the fact that graduates are filling a niche in the Army that remains in high demand.⁴¹

The **facilities** of AMSP are above average, and continuing to improve. The classroom environment is modern, comfortable, and conducive to learning. Each seminar room has a computer for the seminar and an additional computer for the seminar leader. "Classroom XXI" is scheduled for delivery in FY01, although what this will exactly encompass and how it will be incorporated is currently unclear.⁴² There is a danger of attempting to integrate Classroom XXI into the curriculum before the technology and techniques for its use are mature. This would be highly detrimental to the class that was the first to use the equipment.

One area for improvement is the use of pre-existing facilities in the adjacent building (Bell Hall). Several mock-ups and battle labs have been constructed for the CGSOC that would be quite useful for the AMSP exercise program. Also, the Global Command and Control System (GCCS) terminals (on the third floor of the library) are an available facility that the current AMSP program underutilizes. Finally, the Battlefield Planning Visualization (BPV) is a tool used currently in III Corps to automate the MDMP process. Familiarity with this tool through its incorporation into the exercise program would be beneficial.

The **faculty** of AMSP is the most critical variable in the **Environment**. The analysis must be divided into two areas: the permanent faculty and the seminar leaders. The permanent faculty members at SAMS serve several roles: they embody the subject matter expertise in their area of specialty; they teach the future seminar leaders; they design and evaluate the curriculum; they are the heart of the monograph program, and they serve as the institution's conscience and corporate memory.⁴³ The permanent faculty members perform all of these roles, in addition to many other tasks. This raises the

question of depth of personnel, as there are only five permanent faculty members, each aligned in a critical subject area.⁴⁴ If one professor were to depart, the school has no system of overlap (with junior professors) to cover the gap. This leads to the recommendation that additional permanent faculty members should be appointed. An increased number of faculty members would allow many of the benefits common to civilian universities, e.g., team teaching, time for research and sabbaticals, an influx of new perspectives, and added depth to the roster. The senior professors would also gain additional time to teach and interact with the AMSP students.

The seminar leaders are the “center of gravity” of AMSP. Because they are among the few officers selected for a Senior Service College, they are the elite of their grade. Their first year in the AOASF program prepares them for service as planners at Echelons Above Corps, using some of the same curriculum that the AMSP students use. However, the Fellows rarely interact with the AMSP students, unless they become seminar leaders. In past years, the Fellows have had minimal training to prepare them for their role in the AMSP seminar leader position. A positive step was taken in 2000, when several classes were offered to help the future seminar leaders learn the skills of facilitation. Nonetheless, this may still be insufficient. To insure a more uniform quality of educational methods, this monograph recommends that the incoming seminar leaders receive more extensive education and training prior to the arrival of the AMSP students. Several possible techniques are: Practice lesson planning, videotaped practice facilitation sessions with peers, and practice seminars observed by the permanent faculty and the Director. These techniques would build the seminar leaders’ expertise and self-confidence in facilitating adult learning.

Teaching methods at SAMS predominantly consist of the aforementioned seminar method, where the seminar leader facilitates the dialogue between the students so that the learning objectives for each lesson are met. There are a limited number of large group lectures and guest speakers incorporated throughout the year, but lectures are not used as a teaching method in the seminars. To complement the classroom learning, the exercise program attempts to allow students the opportunity to place theory into practice through the use of various simulations or role-playing exercises. The majority of the experience gained in the exercises is through individual discovery learning. This is the environment where the “reflective practitioner” mentioned above is most applicable.

There are several possibilities for improving these teaching methods that could be incorporated into the AMSP education. First, the seminar dialogue method is highly regarded in adult learning theory. However, Brookfield points out that “[m]erely because adults are gathered together for the purposes of discussion does not guarantee that any worthwhile activity will take place.”⁴⁵ The seminar leader plays a key role in helping the group strike the requisite balance between focused discussion and tangential rambling. The recommendation above for additional training of seminar leaders addresses this issue.

Next, the current length of seminars in AMSP is four hours. This could be reduced to three hours and still achieve the learning objectives.⁴⁶ This would reduce the opportunity for editorializing, increase the time available to students for individual preparation, and help students to maintain focus for the full class period. When dialogue is conducted well, it is intellectually unsettling, as students must question their basic assumptions and their habitual opinions. Three hours of debate is challenging, while four

hours (in the opinion of the author) can induce mental fatigue and reduce the quality of learning.

Third, the feedback mechanism for the seminar method is currently incomplete. While the seminar leaders interact with the students as a group to keep the discussion on track toward the learning objectives, there is limited feedback to the individual students to know if they are personally meeting the objectives of the course. A formal quarterly counseling system could be implemented where the seminar leader assesses the quality of each student's input and preparation for class, and counsels the officer on their performance. This would help the student to address problems early to improve deficiencies and maintain strengths. This would also reinforce the role of the seminar leader as a mentor.⁴⁷

Related to the above recommendation is the possibility for additional individual work in AMSP. Other than the oral comprehensive examinations and the monographs, individual work is limited in the program. A positive addition would perhaps be a monthly drill where a student is given a higher headquarters order, a computer, and a time limit. Within the time limit the student would have to produce a Military Decision Making Process (MDMP) product or a complete order. This recommendation would provide seminar leaders with additional data for counseling the students on their individual performance.

The exercise program is different in many ways from the seminars. This portion of the AMSP is training oriented, although overall the learning objectives are closer to education. A critical skill that graduates must leave with is expertise in using the MDMP. Nearly every exercise incorporates the MDMP, so that through repetition the students

master the process. During each exercise, students play various roles, normally outside of their area of expertise, in order to increase their understanding of subject matter outside of their branch.

The technique of role-playing simulation can be extremely effective in helping students learn techniques that will be useful in the “real world”. Yet, exercises can be resource intensive, and the cost, in both materials and time, must be weighed against the benefit. As a teaching method, the exercises are critical, as they mirror the activities that will be expected of students upon graduation. It is the scope and length of the exercises that could be adjusted for a positive effect. While a robust exercise program is crucial for preparing the students to lead battlestaffs in divisions and corps, short exercises may be more beneficial than extended ones.

A current constraint is that there is only one exercise director, and he is without a staff. This constraint could be easily overcome by incorporating the seminar leaders in the exercise design and execution, thereby leveraging the experience of four additional officers.⁴⁸ Currently the seminar leaders play a marginal role in the exercises that should be increased to take advantage of their experience. In addition to leading after-action reviews, the seminar leaders could assist the exercise director in creating the higher headquarters products that drive the exercise scenario. A significant by-product of increased participation by the seminar leaders in the exercise design is that they will then have increased understanding of the learning objectives and overall intent of the exercise. This factor will allow them to have greater success in guiding the students toward achieving the objectives.

A final recommendation concerning the exercise program is related to resources. The previous graduates of AMSP are a tremendous potential resource that has barely been tapped. Resource materials such as division and corps standing operating procedures (SOPs) for planning should be obtained, automated, and provided to the students as a guide.⁴⁹ Perhaps the exercise director should develop a generic AMSP planning SOP as a synthesis of several actual SOPs. This step would reduce some of the struggle during role-playing for students that may have never seen what it is they are trying to replicate. Of course, students would have to be warned that the generic SOP is not the “right” answer that they should attempt to impose on the field, but merely a tool to guide them in the right direction.

The variable **peers** has been briefly discussed above. Peers play two key roles in AMSP. The first role is the interaction in the seminar classes, and the second is as the object of peer leadership during role-playing. The input process, the skill of the facilitator, and the preparation of each student influence this first role. Additionally, the ground rules initially set and agreed to in each seminar will influence the quality of dialogue the rest of the year. One technique to enhance the seminar system would be to redistribute the students to a different seminar after three months. This would allow exposure to a new set of peers, with new perspectives and personalities.⁵⁰ The second role is extremely valuable, as peer leadership will be tested immediately upon the graduate’s arrival at their post-AMSP assignment. AMSP graduates are required to build planning teams from the subject matter experts on the division and corps staffs, coordinating information flow and getting people to work together that might not if left to

their own devices. Peer leadership is a skill only gained through practice, and the exercise program helps students in this respect.

Resources in all organizations are limited. One resource that AMSP is critically short of is time. There is more material to cover than is physically possible in a ten-month program. Two potential methods to work around this resource constraint are related to CGSC. The first is to dictate the CGSOC electives that AMSP nominees must take in the January to May time frame. Currently, nominees take a "history of military thought" course as an AMSP prerequisite. This program could be expanded to allow a small portion of AMSP coursework to be completed prior to the beginning of the AMSP year. A second method to increase the time available is to extend the AMSP program an additional five months. Following completion of the CGSOC core courses in December, AMSP nominees would begin attending AMSP in January.⁵¹ The drawback to these recommendations is the complication for those students that are not attending CGSC prior to arrival at AMSP. Given the advances in Internet education and distance learning, however, this drawback is not insurmountable.

An additional resource that AMSP requires to stay on track for the new century is a dedicated information and technology manager. The fields of automated data processing (ADP) and information technology are advancing exponentially. This is not an area that someone should be tasked to perform as an extra duty. AMSP could and should be on the forefront of educational computer technology, but this will not happen without expending the resources to employ an information and technology manager. Such an individual should not only be versed in the technical aspects of ADP, but also versed in educational uses for technology. This expenditure of resources would also pay

off in allowing the incorporation of better commercial simulations into the exercise program, allowing students to follow through on their plans to see if simulated implementation results match their expectations. With the introduction of Classroom XXI in the near future, it will be inexcusable to not have a dedicated information and technology manager to help SAMS exploit this resource.

Rigor is the next variable for discussion. The technique of grades is problematic for AMSP, because of the nature of the subject matter. Any grades assigned to seminar work would be entirely subjective, since there is rarely an objective "right" answer to the complex problems considered. How then should rigor be maintained in the AMSP program? The current methods of assessment of student performance consist of a requirement to write two forty page monographs, and to pass an oral comprehensive examination at the end of the program. These are pass/fail requirements, and the student must pass in order to graduate. Yet, these requirements are insufficient to maintain rigor throughout the rest of the year. This monograph recommends decreasing the number of required monographs to one, and implementing a series of shorter writing assignments that will be reviewed and returned to the student to provide feedback. In addition, a practice version of the oral comprehensive exams should be conducted in December. These recommendations received mixed reviews from the permanent and rotating faculty during interviews conducted by the author. While there was significant support for including short evaluated writing assignments and practice comprehensive exams, the faculty was evenly divided on the question of whether one monograph or two was optimal.⁵² The monograph debate will be addressed again under the **curriculum**

discussion; nonetheless, implementation of this recommendation would increase rigor without instituting grades.

The final major variable this monograph will address is **curriculum**. Every curriculum will be a compromise, given the limited time available and the plethora of worthy subjects. While each new director has emphasized one area or another, AMSP has used a core curriculum of history, theory, and practical exercises since its inception.

For brevity, only those sub-variables for which this monograph has recommendations will be discussed in detail. However, the reader is reminded that the multiple sub-components of the model are necessary when conducting curriculum design. Again, the formulae are as follows:

- **curriculum**= f (needs assessment, context analysis, learning objectives, organization of learning activities, evaluation);
- **needs assessment**= f (felt needs, prescribed needs);
- **context analysis**= f (societal trends and issues, resources, priorities, mission and purpose, constraints);
- **learning objectives**= f (mission and purpose, resources, feasibility given learners, needs of field).

The design of a curriculum begins with **needs assessment**. At AMSP, the **felt needs** of the students have not been seriously assessed and incorporated into the curriculum design. In the early spring of 2000, however, SAMS conducted a survey of the students for the first time. While the data and conclusions from this survey were not available in time for this monograph, the initiative is a positive step. The incorporation of feedback from the student body will help the faculty determine which facets of the curriculum are well received, and also determine those areas that should be examined for potential revision. With this in mind, however, this monograph recommends that eighty

percent of the curriculum design be weighted toward the **prescribed needs**. As an example, while the students generally enjoy electives, the topics offered in the electives must stay relevant to the mission and purpose of AMSP, as they were in 2000.

As the permanent faculty conducts its next curriculum review, **context analysis** will be an important factor. A few examples of **societal trends and issues** that could be incorporated into the curriculum are: the Revolution in Military Affairs; the perceived gap in civil-military relations; the societal changes occurring due to the "Information Age"; the increasingly wide divide between rich and poor states; and the increased importance of economics and globalization. All of these issues will have an effect on the use of military forces at the tactical, operational, and strategic levels over the next two decades. Which of these trends and issues can actually be addressed in the curriculum will be shaped by the other variables in context analysis, that is **resources, priorities, mission and purpose, and constraints**.

Learning objectives require only limited adjustment. Each lesson in the syllabus includes a comprehensive list of learning objectives that are **feasible given the learners**, and supportive of the **mission and purpose** of AMSP. Where adjustment may be required is in assessing the **needs of the field**. If AMSP could harness the collective mind of its alumni, then extremely valuable feedback could be obtained from graduates concerning curriculum development. As each graduate completes the internship year as a corps or division planner, they should be required to reflect on where the curriculum helped them most, and in what areas reinforcement is needed. Thereby, learning objectives could be adjusted annually to the needs of the field. A second effort could be made to obtain input from division and corps commanders, the primary users of AMSP's

product. The CAC commander is probably the most appropriate individual to perform this latter effort. Both of these ideas are not new with this monograph, but they are also not systematically implemented on an annual basis.

The **organization of learning activities** is a controversial topic among the faculty. Several permanent faculty members proposed creating a "campaign plan" that would integrate the theory, history, and exercise program much more closely than at present.⁵³ For example, a Napoleonic campaign would be studied in depth, followed by seminar sessions on Clausewitz and Jomini. Finally the students would have to plan a Napoleonic campaign over a three-day period. The same concept could be applied to the study of twentieth-century wars, using wargaming to tie the theory and history to the practical thought of warfare. This departs from the current curriculum, in that the exercise program is somewhat independent in the problem sets that it chooses, except for the study of the Barbarossa campaign. While the idea has merit, the actual creation of a syllabus organized in this manner would be a Herculean task. Perhaps after the AOASF fellows have completed work on the new FM 3.0 (100-5), their talents could be applied to this mission.

Evaluation is the final sub-variable for discussion. Closely tied to rigor and needs assessment, evaluation is critical to curriculum improvement. While an exhaustive curriculum review was conducted in 1998-1999, the work is not yet complete. Feedback on the student surveys may allow continued adjustment of lesson content and sequencing. One additional factor for consideration is accreditation. In order for AMSP to grant the Master of Military Arts and Sciences degree (MMAS), it must meet the accreditation standards of the North Central Association of Colleges and Schools. The two

monographs and the comprehensive oral exams are the current assessment mechanisms that AMSP uses to meet this standard. However, it is worth researching whether the North Central Association (NCA) would be flexible concerning the instruments that must be used. For example, if AMSP were to state that one monograph in conjunction with multiple short writing exercises is sufficient to meet its educational objectives for the MMAS, it is possible that the NCA would still grant accreditation.⁵⁴ This monograph stops short of recommending that the monograph requirement be changed. However, the monograph does recommend that the permanent faculty explore the current state of the monograph program to evaluate whether it is meeting the school's objectives.

The analytical model provides a framework that is useful for attempting to understand the multiple competing and interdependent variables involved in an educational program. Within each of the variables, this monograph has made recommendations based on inference, observations, and interviews. These recommendations are not conclusive, but are demonstrative of the potential usefulness of the model for further study of the AMSP program.

Chapter Four: Conclusions

The preceding analysis divided AMSP into many component parts in an attempt to explore each in some detail. The final step is to synthesize the individual observations into coherent conclusions. The bottom line is that the current initiatives at AMSP are an evolutionary step in the right direction. Because SAMS is a complex organization that is part of a larger and more complex organization, incremental change is to be expected. COL Swan recognized this in his Director's Vision Statement in 1998.

This monograph was written in an attempt to assist that incremental change in gaining momentum. SAMS fills a critical niche in the Army, and when implementing change, the rule must be "first, do no harm." Thus, the recommendations in chapter three are not radical. However, as the Army executes its Transformation Strategy, it is important that SAMS and AMSP also transform. The stability of the international environment will continue to be uncertain as long as the US is the sole superpower. Ill-defined threats that elude the state-centric paradigm will be the norm. It is highly probable that the US military will continue to be called upon regularly to conduct short-duration operations that entail high risk. During the first decade of the 21st century, as the US Army transforms, the force structure may not fit the contingency, and forces will need to be tailored, formed, and trained to execute specific missions. This will require an officer corps, and especially planners, that are mentally flexible, comfortable with developing technology, and educated across the breadth and depth of military art and science.

The recommendations in chapter three work toward this requirement. Increasing the quality of the students that are admitted to AMSP through more intensive testing is the starting point. An integrated “curricular campaign plan” incorporating high rigor and advanced simulations will develop the “reflective practitioners” that the Army will require. Adding additional permanent junior faculty will enhance the graduate-level university aspects of SAMS, while adding flexibility for the current senior professors. Focusing more effort on assisting the seminar leaders to master facilitation techniques would have decisive results in the program’s “center of gravity”. While these changes are evolutionary, they will require work and commitment to implement.

This monograph has provided a framework for analysis, but has only scratched the surface. Significant research remains to be done that would benefit SAMS and the Army. For example, is the current class size proportional to the needs of the Army? This question goes beyond the annual requirement for division and corps planners. When one considers that the original vision for AMSP assumed a 30 year career as the norm for graduates, and SAMS is the only program focused on educating officers in the operational art, then research could identify whether or not SAMS graduates are predominantly filling the billets at operational level staffs and commands. It is possible that the small number of graduates each year is insufficient to maintain a statistically significant population of graduates after the twenty-year mark. Additional research would also be helpful on the question of the integration of AMSP with OPMS XXI and the expected redesign of Intermediate Level Professional Military Education.

The information age is here, where change is rapid and the future uncertain. The original vision of SAMS must be melded with the new geopolitical environment and with

advances in educational theory, techniques, and technology. In this way, SAMS will successfully achieve its goal of teaching and learning the operational art of war.

Endnotes

¹ Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms*, 23 March 1994, as cited in FM 101-5-1, *Operational Terms and Graphics*, 30 September 1997, 1-115

² Huba Wass de Czege, "Final Report: Army Staff College Level Training Study," (Carlisle, PA: US Army War College, 13 June 83), F-2 – F-3.

³ These studies are the Officer Personnel Management System, Review of Education and Training for Officers (1978), and the Strategic Studies Institute, "Operation Planning: An Analysis of the Education and Development of Effective Army Planners" (1982).

⁴ Wass de Czege, F-1.

⁵ Wass de Czege, F-4.

⁶ Ibid.

⁷ In the original concept for AMSP, each seminar was to have two facilitators. This was not implemented due to resource constraints.

⁸ US News & World Report, *Triumph Without Victory: The History of the Persian Gulf War*, (New York: Times Books, 1992), 163-165. See also *The Generals' War: The Inside Story of the Conflict in Gulf* by Michael R. Gordon and General Bernard E. Trainor, and *Crusade: The Untold Story of the Persian Gulf War* by Rick Atkinson.

⁹ BG John Kirk, "Reply," *Armor*, CVIII, no. 4 (July-August 1999): 53-54.

¹⁰ For an excellent study of these factors, see LTC Christopher L. Baggott, "The School of Advanced Military Studies in the 21st Century." Monograph, US Army Command and General Staff College, 1998.

¹¹ The author conducted ten separate interviews in researching this monograph, including an interview with the Director of SAMS, each of the permanent faculty, and each of the seminar leaders. Some of the information provided in these interviews was on a "background" basis, meaning that the source will not be directly attributed. In these instances, the endnote will merely say "Interview" without listing a name.

¹² This number may be expanded to five seminars in 2000-2001.

¹³ Director's Vision Statement, and COL Robin Swan, interview by author, Fort Leavenworth, 17 April 2000.

¹⁴ Director's Vision Statement, 1998, (See Appendix A).

¹⁵ "Agents of positive change" is a phrase used by Dr. Schneider, Professor of Military Theory at SAMS, in an interview with the author. "Phase III" is used to describe the one-year assignment as a division or corps planner, with phase I consisting of the year at CGSOC and phase II as the year at AMSP.

¹⁶ Swan, interview.

¹⁷ This comment was reinforced by each of the permanent faculty in interviews by the author.

¹⁸ Swan, interview.

¹⁹ Malcolm Tight, *Key Concepts in Adult Education and Training*, (New York: Routledge, 1996), 18.

²⁰ R. Barrow and G. Milburn, *A Critical Dictionary of Educational Concepts: An Appraisal of Selected Ideas and Issues in Educational Theory and Practice*, 2nd ed., (Hemel Hempstead, England: Harvester Wheatsheaf, 1990), 106-7; quoted in Tight, 17.

²¹ Tight, 21.

²² Tight, 22.

²³ Figure 1 is adapted from Tight, 12.

²⁴ Robert H. Ennis, "A Taxonomy of Critical Thinking Dispositions and Abilities", in Joan Boykoff Baron and Robert J. Sternberg, eds., *Teaching Thinking Skills: Theory and Practice*, (New York: W.H. Freeman, 1987), 10.

²⁵ Ennis, 16.

²⁶ Ennis, 16-24.

²⁷ Raymond S. Nickerson, "Why Teach Thinking?" in Joan Boykoff Baron and Robert J. Sternberg, eds., *Teaching Thinking Skills: Theory and Practice*, (New York: W.H. Freeman, 1987), 29.

²⁸ Donald A. Schön, *Educating the Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions*, Jossey-Bass Higher Education Series. (San Francisco: Jossey-Bass, 1987), 26-30.

²⁹ Schön, 82-83. On page 83, Schön introduces the Meno dialogue from Plato, and uses it to extraordinary effect to explain this paradox of learning and teaching.

³⁰ Alexander W. Astin, *Assessment for Excellence: The Philosophy and Practice of Assessment and Evaluation in Higher Education*, (Phoenix: Oryx Press, 1993), 17-19.

³¹ Astin, 19.

³² Astin, 18.

³³ Michael W. Galbraith, ed., *Adult Learning Methods: A Guide for Effective Instruction*, (Malabar, FL: Kreiger, 1990), 8.

³⁴ These formulae are the author's interpretation of Galbraith's discussion, pages 8-16.

³⁵ See Raoul Alcala, "Education and Officer Attitudes," in International Studies Association Occasional Paper, *The System for Educating Military Officers in the U.S.*, ed. Lawrence Korb, no. 9, (Pittsburgh, PA: University of Pittsburgh, 1976), 133-149.

³⁶ Galbraith, 8.

³⁷ Ibid., 9.

³⁸ Ibid., 10-11.

³⁹ Ibid., 11.

⁴⁰ Ibid., 15.

⁴¹ Swan, interview.

⁴² Dr. William Gregor, interview by author, Fort Leavenworth, 7 April 2000.

⁴³ Dr. James Schneider, Dr. Robert Berlin, Dr. Robert Epstein, Dr. William Gregor, interviews by author, April 2000.

⁴⁴ Professor of History, Professor of Military Theory, Professor of Social Sciences, Director of Academic Affairs, and Exercise Director.

⁴⁵ Stephen D. Brookfield, "Discussion," in Michael W. Galbraith, ed., *Adult Learning Methods: A Guide for Effective Instruction*, (Malabar, FL: Kreiger, 1990), 187, 193.

⁴⁶ Interview.

⁴⁷ COL Kim Summers, Dr. James Schneider, interviews by author, Fort Leavenworth, 13 and 19 April 2000 respectively.

⁴⁸ COL Robert Chadwick, interview by author, Fort Leavenworth, 13 April 2000.

⁴⁹ Summers, interview.

⁵⁰ LTC Peter Schifferle, interview by author, Fort Leavenworth, 14 April 2000.

⁵¹ Summers, interview.

⁵² Data taken from all ten interviews. See bibliography.

⁵³ Schifferle, Gregor, Epstein, interviews.

⁵⁴ Schneider, interview.

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Appendix A: Director's Vision Statement 1998

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SCHOOL OF ADVANCED MILITARY STUDIES

Vision Statement

1. Background.

a. With the change of directors, it is time for the School of Advanced Military Studies (SAMS) to analyze critically the school's history and mission, including its method, contributions, and external expectations, to plan for its future and assure its continued relevance to the Army. The unifying thread of this analysis will remain SAMS' pedagogical method that stresses the development of the military mind in the art and science of warfare. At the core of this method is the study of military art and science grounded in military theory, military history, and simulations and exercises. The SAMS' saying of "teaching students how to think vice what to think" is perhaps more important today than when the school was founded because of the changes in our security environment over the past decade. We want, and the Army needs our students to develop a problem solving outlook that enables them to overcome complex operational challenges.

b. To set the stage for continued discussion, it is important to establish the reasons for SAMS' success within the Army. From its inception in the mid-1980s and through the immediate aftermath of Operation Desert Storm, SAMS owed its popularity and perception of success to two factors. The first was what SAMS had to say to the Army, the second was how SAMS graduates performed during their follow-on and subsequent assignments.

c. The importance of Operational Art is what SAMS had to say. Within the context of the 1986 version of FM 100-5, SAMS faculty, students, and graduates aided the Army in refining the AirLand Battle operational concept, and led the Army debate regarding the importance of Operational Art and campaign planning to the bi-polar security environment of the time. Military Review articles between 1986 and 1991, many written by SAMS-associated officers, discussed tactical- and operational art-related topics associated with FM 100-5 such as auftragstaktik, commander's intent, synchronization, elements of operational design and operational art. SAMS' reputation grew as it recognized the significant contributions it had made and could continue to make regarding the Army's understanding of operational art and the operational level of war.

d. In a complimentary way, SAMS graduates became disciples of FM 100-5 to the Army in the field. With discipleship came the Army's recognition that SAMS-educated officers possessed a breadth of knowledge, a common basis of tactical and operational concept understanding, and a common problem-solving outlook that made them premier battle staff leaders and planners. For the most part, graduate performance has and continues to reinforce the school's success within the Army.

2. Change.

a. Colonel Rick Sinnreich, after his tenure as Director in 1986, wrote, "... virtually all the dangers facing SAMS are associated with its success, not its failure. The temptation to fix what ain't broke is endemic in the Army. SAMS' preeminent challenge will be to avoid that syndrome -- not to abjure change, but to discipline it." He was concerned that because of the school's rapid success with the field, the Army would want to exert burdensome constraints and restrictions on the school's internal ability to chart the curriculum and teaching methods necessary to accomplish its founding tasks. Regarding the curriculum, Sinnreich wrote:

In no area is that [guard against external influence] more essential than in regard to curriculum design and pedagogical method. Although the shape of the AMSC and AOSF curricula and the content of specific courses have changed significantly during the past three years, that change has been driven largely by the faculty through a deliberately zero-based annual process, including formal review and redefinition of the purpose, goals, and objectives of each program (AMSC and AOSF); reexamination of the sequencing of subjects; allocation of time and choice of method; and discussion of the internal design of each successive course.

b. In 1998, Colonel Sinnreich's comments have different implications from their time. Fortunately for the school and the Army, his concerns have not happened. This is not to say that we should lower our guard against the possibility of miss-directed external pressures for change. However, in 1998 it is because of SAMS' past success that we, SAMS, face new dangers associated with our hesitance to affect and accept change when our external and internal environments dictate that we do so.

c. Organizational change theory tells us that the first requirement of affecting change is to make the determination whether or not change is necessary. Regarding SAMS, I believe that it is, but I am not advocating change solely for the sake of change. My leadership task is twofold. First, I must convince each of you that change in the AMSP and AOASF curricula and several other areas is necessary for a number of reasons. In so doing, our path will be easier to chart and ownership for the result will be accepted more readily. Second, I want to create logical procedures that will facilitate program review processes in the future. To do so, I will begin with a discussion of the Army's expectations of AMSP and AOASF graduates. Next, I will briefly discuss several environmental factors that I believe dictate change. Finally, I will describe what I believe are the avenues of change we must explore to continue to be relevant to our institution in the future.

3. Expectations of AMSP and AOASF Graduates.

a. Regardless of desires, expectations are reality and serve to shape our environment. It is important for SAMS and the college to realize that what we call the AMSP Phase III Education, assignment of graduates to critical battle staff positions at corps and division levels, has two major implications of how the Army views our continued success, utility, and relevance. First, corps and division commanders, chiefs of staff, or G3s do not view graduate performance as an educational experience the same way the school does. Their view is strictly one of translation of education to action. Graduates must perform their duties from the moment they arrive in a planning or operations cell. Second and as a result of the first, going-in expectations of AMSP graduates by the respective echelon chains of command are higher than those set for a resident CGSOC graduates. The following list, though not all-inclusive, details the field's major expectations:

AMSP graduates --

- share a common basis of understanding among graduates regarding the elements of operational and tactical design.
- are capable briefers and writers; can translate commander's vision, direction, and guidance into executable plans and orders.
- can apply disciplined thought processes to tactical challenges in any operational environment.
- are adept facilitators of parallel planning processes.
- understand the language and symbols of the profession.
- can elicit cooperation among battle staff members without showcasing individual talent.
- accept responsibilities as battle staff leaders. Direct battle staff activities during deliberate and time-constrained MDMP processes. Provide guidance and direction during all phases of the MDMP. Ensure coordination and synchronization of plans and orders.
- accept responsibilities as battle staff trainers. Develop and conduct battle staff training
- possess firm understanding of FM 100-5, and corps and division doctrine. Are not doctrinal "Jesuits" but can apply doctrinal or non-doctrinal solutions to extant operational- or tactical-level circumstances.
- understand the capabilities and limitations of extant technology. Can apply innovative solutions to technological challenges associated with the MDMP and mission execution.
- are tireless planners. Long workdays are the norm.

b. The Army has not formally recognized a fourth phase of the AMSP education process, but in the years following the school's inception, a fourth phase, with distinct expectations, has become manifest. For AMSP graduates, Phase IV begins after Phase III corps and division planning and operations experience, and branch qualification assignments in battalions and

brigades. It is at this point in their careers that AMSP graduates can move to assignments within joint, combined, and service component organizations. For AOASF fellows, Phase IV begins after graduation. It is important to understand that Phase IV never ends. It is the culmination of the school's founding vision: SAMS-educated officers are operational artists. The following list, though not all-inclusive, details the expectations of AMSP and AOASF graduates within joint, combined, interagency, and service-specific organizations associated with the operational level of war:

AMSP and AOASF graduates --

- understand and can practice the operational art, and understand that the operational level of war and practice of the operational art links strategic vision to tactical action; operational art is therefore inextricably linked to campaign planning.
- understand the implications of joint doctrine as it relates to campaign planning. Able to take a top-down approach to joint planning.
- possess a common understanding of the elements of operational design and the use of these elements in the campaign planning process regardless of operational environment.
- understand the roles, relationships and capabilities of service components within a joint or combined operational environment. Have a refined understanding of how their own service components work.
- understand and can conduct deliberate and crisis-action planning within the JOPES framework.
- can conduct parallel campaign and major operations planning processes within joint, combined, and interagency frameworks.
- understand the implications of joint, combined and interagency command and control relationships.
- understand the capabilities and limitations of extant technology. Can apply innovative solutions to technological challenges associated with the MDMP and mission execution at the operational and theater-strategic levels of war.
 - understand how to integrate MDMP processes with distributed organizations within joint, combined, and interagency frameworks.

c. Consideration of expectations tells us that SAMS' major focus on Operational Art continues to be the critical niche that SAMS occupies for the Army. However, the school's continued success and relevancy as measured by the Army will be how well our graduates meet these expectations both at the tactical and operational levels of war. We must be cognizant of our responsibility to prepare our graduates for the roles that they play in the increasingly more complex environments associated with Phases III and IV.

4. The Environment

a. **The Security Environment:** Last year while at the Kennedy School, I had the opportunity to brief thirty visiting Chinese PLA officers on the future of the U.S. Army. I have

two lasting impressions formed by their questions after my presentation. First, they were amazed at the breadth of Army operational deployments since 1991. Second, they were very inquisitive about how the Army will leverage information technologies to overcome operational challenges. The fact that I briefed PLA officers in Cambridge in 1998 is, of itself, indicative of the changes to our environment since the school's founding. The evolution of our understanding of Operational Art and how to apply it within present and future security environments is the fundamental challenge we face in preparing our graduates for what is to come. An example of the magnitude of this challenge is the need to create greater emphasis and curricula refinement to embrace support and stability operations at the operational level of war. We have done great work in addressing operational art as such. However, comments from the field suggest that more education must be provided to extend the essential operational paradigm to include support and stability in the conventional framework. A second, and closely associated challenge, involves how we explore the uses of technology to enhance our effectiveness.

b. Technology: Several months ago I had the opportunity, along with our current AOASF fellows, to listen to Dr. Ted Warner discuss DoD's perspectives on technology. Warner believes that to debate whether or not our armed forces are undergoing a Revolution in Military Affairs (RMA) because of technological advances is counter-productive to the larger task at hand. History will determine if the current technological boom is a RMA. The fact is that technology, both informational- and weapons-based, is driving changes in operational concepts that, in-turn, are changing the organization structures necessary to operate in future environments. I believe Warner is basically correct. A quick trip to Fort Hood would confirm to anyone that the Army is not debating whether or not to increase technological capabilities. We are adopting those capabilities and at a speed that is difficult to place in perspective. We must prepare our graduates to understand and leverage extant technologies in planning and execution processes. To do this, we have to rely on the college for help.

c. The College: In spite of budget and personnel reductions, CAC and CGSC are working on several initiatives that have implications for doctrine and operational concept development. These initiatives also have curricula and research implications for SAMS. CALL's University After Next project holds tremendous potential for use by SAMS as a means to work issues for the field as well as a means to reach out to graduates. Within CTAC, the Digital Leader Development and Digital Leader Reaction Courses can assist SAMS in preparing CGSC students during Phase I for the continuation of their tactics education during Phase II. In addition to these resources, CAC's Digital Battle Lab and Battle Command Battle Lab hold similar potential and promise. SAMS cannot replicate these resources in Eisenhower Hall. We also cannot ignore their usefulness to our purposes.

5. Action.

a. Recalling that SAMS's success and relevancy are functions of what it says and does, the preceding discussion of expectations indicates that we must examine our approaches to the study of tactics and operational art. The first step of this examination involves the understanding that

our students' CGSC year, AMSP Phase I, sets the stage for the continuation of the study of tactics, and the in-depth study of operational art and campaign planning. We are not in the business of teaching tactics in the same manner as CGSC. We are, however, in the business of expanding our students' abilities to lead and synchronize corps and division battle staffs in the MDMP during Phase III. It is from this point that I want discussions of curriculum change to proceed. Specifically, I believe that we must explore the following:

- Mandate that all SAMS selectees take A308, Digitized Division Operations, during their CGSOC year. This will be in addition to A699, Evolution of Modern Military Thought.
- With the assistance of CTAC, examine CGSC core tactics instruction to identify areas that will require special emphasis during Phase II.
- With the assistance of DJMO, examine CGSC core joint, combined, and interagency operations instruction to identify the level of student understanding of joint planning processes.
- Evaluate our methods regarding the emphasis we place on FM 100-5 as the conceptual framework for our study of operational art.

b. I do not believe that we are yet in the position to direct specific curriculum changes. I say this only because we have yet to embark on a disciplined process that will lead to the in-depth review of learning objectives relative to our mission and the operational environments that our graduates will find themselves. I also realize that the process we select will be a long-term endeavor. However, I want to establish within the context of the previous discussion, three guidelines that will assist us in the process: leveraging expertise, horizontally and vertically integrating the AMSP and AOASF curricula, and increasing the robustness of our exercise program.

c. I want to leverage expertise both internal and external to SAMS and the college to review our current learning objectives and make qualified recommendations of change. Internally, we must continue to recognize our essential roles as intellectual leaders in the design, teaching, and stewardship of the SAMS curricula. We each have perspectives and experiences that will help us develop objectives linked to our changing environment. External to SAMS, there are a number of subject experts willing to lend their expertise to specific curricula design challenges. We must be willing to seek their assistance when necessary.

d. We will explore avenues to integrate our curriculum horizontally and vertically. Horizontal integration means that each course or module has a common thread that links module components to specific, mutually agreed upon learning objectives. This may signal a break from our traditional course 1 through 5 approach, but does not signal a break from the foundation of SAMS curricula design: the study of military art and science grounded in military theory, military history, and simulations and exercises. A course module approach would be in the sequence of foundation theory, historical perspectives, current and draft doctrine, rigorous exercises and after action reviews, and finally a discussion of the implications of module learning objectives to the future of operational art. Vertical integration has a threefold purpose: smooth

transition between Phases I and II; each module builds upon the previous and sets the stage for the next; and, to the extent possible, the AMSP and AOASF curricula become mutually supporting. There are several possible design models that we can explore to achieve integration. One possibility is to take a period approach to curricula development that charts the development and evolution of operational art along a particular historical path: classical - industrial - cold war (nuclear) - hybrid (post-cold war) - future.

e. Integration must focus on a robust exercise program that reinforces module objectives in a clinical and quasi-laboratory setting. This approach will allow us to make more explicit the military scientific core of the AMSP and AOASF curricula. Our students will be able to determine the real relationship between military theory and history. Since military science suggests that the history of the art of war is the empirical foundation of theory, military simulations represent a clinical laboratory to explore and test this relationship. We must leverage the growing technology resources of the college to assist us with this task.

f. Just as the college is a resource for SAMS, SAMS is a resource for the college and the Army. We should not resist the involvement of our faculty and students in projects that have broad doctrinal implications, particularly when such projects involve the operational art. This is not to say that we become action officers for every office that needs manpower. We can, however, apply a disciplined approach to research and writing on a variety of subjects important to the Army and supportive of our mission.

g. A SAMS faculty member recently told me, "You do not sing to get to the end of the song; you do not write doctrine to get to the end of doctrine." We are currently working with the college to create, actually reestablish, an Operational Studies Office that will be manned by second year fellows. We envision this office having two major functions. First, it is the FM 100-5 writing team responsible for not only writing the manual, but then leading the Army debate regarding its impacts. Second, team members will serve as an initiatives group responsive to the CAC Commander on issues involving operational art. Since this office is closely associated with SAMS, we can use it to help return a sense of FM 100-5 discipleship to our students and graduates.

h. A friend told me not long ago that SAMS should not distance itself from the institution that creates and sustains it. We understand that Phase I of our students' education is CGSOC. We also understand that the college has resources that must be used by SAMS if we are to adequately prepare our students for Phases III and IV. We cannot afford to be insular. There are experts within the college's reach that can and will assist us in identifying and affecting change within the curriculum. We need to ask. We also need to display a willingness to be part of the college. Colonel Sinnreich was correct in his time, however, times have changed.

i. Past graduates and their associated spheres of influence hold great potential as an extended network resource for use by SAMS and the college. To date, we have not exploited this potential. I believe the "distributed mind" concept within the framework of the University

After Next has numerous implications for our research, doctrine development, and student preparation. Unfortunately, SAMS is currently not a link in the UAN network. This must change.

j. One unique aspect of SAMS is our use of experienced second year AOASF Fellows as seminar leaders in the AMSP. Our seminar leaders are the center of gravity of the SAMS teaching effort. As such, we must focus effort on seminar leader selection and preparation. I believe that the selection process should be a collective effort among the faculty with major inputs from the Director of Academic Affairs and the AOASF Seminar Leader. I want to develop a formal procedure for selection, and complete the process by mid-academic year so that selectees can participate in a comprehensive preparation and certification process developed and administered by the Director of Academic Affairs.

k. In closing, I believe that SAMS continues to make significant contributions to the Army. These contributions are measured by the success of our graduates during Phases III and IV, and by what we say regarding operational art within the context of FM 100-5. However, given the evolving complexities of the security environment and the sweeping changes in operational concepts brought about by technology, we cannot afford to become complacent with our past success. The major challenge we face as we enter an uncertain future is to determine if and when change is necessary, then effect change in disciplined ways. In so doing, we will fulfill the Army's expectations of SAMS.

ROBIN P. SWAN
LTC, IN
Director, School of Advanced
Military Studies

Appendix B: Critical Thinking Characteristics

The following is excerpted from Raymond S. Nickerson's chapter, "Why Teach Thinking?" in *Teaching Thinking Skills: Theory and Practice*, edited by Joan Boykoff Baron and Robert J. Sternberg. The section of the chapter is entitled, "What Constitutes Good Thinking." It is included in this appendix because the list so aptly describes the characteristics that AMSP attempts to inculcate in its students.

"My stereotype of a good thinker can be characterized in terms of knowledge, abilities, attitudes, and habitual ways of behaving. Here are some of the characteristics that would be on my list:

- uses evidence skillfully and impartially;
- organizes thoughts and articulates them concisely and coherently;
- distinguishes between logically valid and invalid references;
- suspends judgment in the absence of sufficient evidence to support a decision;
- understands the difference between reasoning and rationalizing;
- attempts to anticipate the probable consequences of alternative actions before choosing among them;
- understands the idea of degrees of belief;
- has a sense of the value and cost of information, knows how to seek information, and does so when it makes sense;
- sees similarities and analogies that are not superficially apparent;
- can learn independently and, at least equally importantly, has an abiding interest in doing so;
- applies problem-solving techniques appropriately in domains other than those in which they were learned;
- can structure informally represented problems in such a way that formal techniques (e.g., mathematics) can be used to solve them;
- listens carefully to other people's ideas;
- understands the difference between winning an argument and being right;
- recognizes that most real-world problems have more than one possible solution and that those solutions may differ in numerous respects and may be difficult to compare in terms of a single figure of merit;
- looks for unusual approaches to complex problems;
- can strip a verbal argument of irrelevancies and phrase it in terms of its essentials;
- understands the differences among conclusions, assumptions, and hypotheses;

- habitually questions one's own views and attempts to understand both the assumptions that are critical to those views and the implications of the views;
- is sensitive to the difference between the validity of a belief and the intensity with which it is held;
- can represent differing viewpoints without distortion, exaggeration, or caricaturization;
- is aware of the fact that one's understanding is always limited, often much more so than would be apparent to one with a noninquiring [sic] attitude; and
- recognizes the fallibility of one's own opinions, the probability of bias in those opinions, and the danger of differentially weighting evidence according to personal preferences.

This list is extensive enough to make the point that if we accept it—incomplete as it is—we must acknowledge that there is a considerable difference between good thinking and the kind of thinking most of us habitually do.”

Raymond S. Nickerson, “Why Teach Thinking?” in *Teaching Thinking Skills: Theory and Practice*, eds. Joan Boykoff Baron and Robert J. Sternberg, (New York, W.H. Freeman, 1987), 29-30.

- ¹ Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms*, 23 March 1994, as cited in FM 101-5-1, *Operational Terms and Graphics*, 30 September 1997, 1-115
- ² Huba Wass de Czege, "Final Report: Army Staff College Level Training Study," (Carlisle, PA: US Army War College, 13 June 83), F-2 – F-3.
- ³ These studies are the Officer Personnel Management System, *Review of Education and Training for Officers* (1978), and the Strategic Studies Institute, *Operation Planning: An Analysis of the Education and Development of Effective Army Planners* (1982).
- ⁴ Wass de Czege, F-1.
- ⁵ Wass de Czege, F-4.
- ⁶ Ibid.
- ⁷ In the first several years of AMSP, each seminar had two facilitators, but this was discontinued due to resource constraints.
- ⁸ US News & World Report, *Triumph Without Victory: The History of the Persian Gulf War*, (New York: Times Books, 1992), 163-165.
- ⁹ BG John Kirk, "Reply," *Armor*, CVIII, no. 4 (July-August 1999): 53-54.
- ¹⁰ For an excellent study of these factors, see LTC Christopher L. Baggott, "The School of Advanced Military Studies in the 21st Century." Monograph, US Army Command and General Staff College, 1998.
- ¹¹ The author conducted ten separate interviews in researching this monograph, including an interview with the Director of SAMS, each of the permanent faculty, and each of the seminar leaders. Some of the information provided in these interviews was on a "background" basis, meaning that the source will not be directly attributed. In these instances, the endnote will merely say "Interview" without listing a name.
- ¹² This number may be expanded to five seminars in 2000-2001.
- ¹³ Director's Vision Statement, and COL Robin Swan, interview by author, Fort Leavenworth, 17 April 2000.
- ¹⁴ Director's Vision Statement, 1998, (See Appendix A).
- ¹⁵ "Agents of positive change" is a phrase used by Dr. Schneider, Professor of Military Theory at SAMS, in an interview with the author. "Phase III" is used to describe the one-year assignment as a division or corps planner, with phase I consisting of the year at CGSOC and phase II as the year at AMSP.
- ¹⁶ Swan, interview.
- ¹⁷ This comment was reinforced by each of the permanent faculty in interviews by the author.
- ¹⁸ Swan, interview.
- ¹⁹ Malcolm Tight, *Key Concepts in Adult Education and Training*, (New York: Routledge, 1996), 18.
- ²⁰ R. Barrow and G. Milburn, *A Critical Dictionary of Educational Concepts: An Appraisal of Selected Ideas and Issues in Educational Theory and Practice*, 2nd ed., (Hemel Hempstead, England: Harvester Wheatsheaf, 1990), 106-7; quoted in Tight, 17.
- ²¹ Tight, 21.
- ²² Tight, 22.
- ²³ Figure 1 is adapted from Tight, 12.
- ²⁴ Robert H. Ennis, "A Taxonomy of Critical Thinking Dispositions and Abilities", in Joan Boykoff Baron and Robert J. Sternberg, eds., *Teaching Thinking Skills: Theory and Practice*, (New York: W.H. Freeman, 1987), 10.
- ²⁵ Ennis, 16.
- ²⁶ Ennis, 16-24.
- ²⁷ Raymond S. Nickerson, "Why Teach Thinking?" in Joan Boykoff Baron and Robert J. Sternberg, eds., *Teaching Thinking Skills: Theory and Practice*, (New York: W.H. Freeman, 1987), 29.
- ²⁸ Donald A. Schön, *Educating the Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions*, Jossey-Bass Higher Education Series. (San Francisco: Jossey-Bass, 1987), 26-30.
- ²⁹ Schön, 82-83. On page 83, Schön introduces the *Meno* dialogue from Plato, and uses it to extraordinary effect to explain this paradox of learning and teaching.

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- ³⁰ Alexander W. Astin, *Assessment for Excellence: The Philosophy and Practice of Assessment and Evaluation in Higher Education*, (Phoenix: Oryx Press, 1993), 17-19.
- ³¹ Astin, 19.
- ³² Astin, 18.
- ³³ Michael W. Galbraith, ed., *Adult Learning Methods: A Guide for Effective Instruction*, (Malabar, FL: Kreiger, 1990), 8.
- ³⁴ These formulae are the author's interpretation of Galbraith's discussion, pages 8-16.
- ³⁵ See Raoul Alcala, "Education and Officer Attitudes," in International Studies Association Occasional Paper, *The System for Educating Military Officers in the U.S.*, ed. Lawrence Korb, no. 9, (Pittsburgh, PA: University of Pittsburgh, 1976), 133-149.
- ³⁶ Galbraith, 8.
- ³⁷ Ibid., 9.
- ³⁸ Ibid., 10-11.
- ³⁹ Ibid., 11.
- ⁴⁰ Ibid., 15.
- ⁴¹ Swan, interview.
- ⁴² Dr. William Gregor, interview by author, Fort Leavenworth, 7 April 2000.
- ⁴³ Dr. James Schneider, Dr. Robert Berlin, Dr. Robert Epstein, Dr. William Gregor, interviews by author.
- ⁴⁴ Professor of History, Professor of Military Theory, Professor of Social Sciences, Director of Academic Affairs, and Exercise Director.
- ⁴⁵ Stephen D. Brookfield, "Discussion," in Michael W. Galbraith, ed., *Adult Learning Methods: A Guide for Effective Instruction*, (Malabar, FL: Kreiger, 1990), 187, 193.
- ⁴⁶ Interview.
- ⁴⁷ COL Kim Summers, Dr. James Schneider, interviews by author, Fort Leavenworth, April 2000.
- ⁴⁸ COL Robert Chadwick, interview by author, Fort Leavenworth, 13 April 2000.
- ⁴⁹ Summers, interview.
- ⁵⁰ LTC Peter Schifferle, interview by author, Fort Leavenworth, 14 April 2000.
- ⁵¹ Summers, interview.
- ⁵² Data taken from all ten interviews. See bibliography.
- ⁵³ Schifferle, Gregor, Epstein, interviews.
- ⁵⁴ Schneider, interview.